

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Paul R. Sharps et al. Art Unit : 1753  
Serial No. : 10/723,456 Examiner : Anthony D. Fick  
Filed : November 26, 2003 Conf. No. : 5958  
Title : MULTIJUNCTION SOLAR CELL WITH A BYPASS DIODE

**Mail Stop Appeal Brief - Patents**  
Commissioner for Patents  
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REPLY BRIEF

Pursuant to 37 C.F.R. § 41.41, Applicant responds to the Examiner's Answer as follows

(1) At page 5, lines 6-7, the Examiner's Answer argues that the word "substantially" "introduces a 'fudge factor' that opens up whatever it is modifying to interpretation."

Applicant respectfully disagrees with the Examiner's characterization of the term "substantially," as used in the pending claims, as a "fudge factor." Applicant points to the numerous decisions indicating that the use of "substantially" in patent claims meets the requirements of 35 U.S.C. § 112, pars. 1-2 (*see, e.g.*, pages 9-10 of the Appeal Brief). Among other things, applicant notes the decision in *LNP Engineering Plastics, Inc. v. Miller Waste Mills, Inc.*, 275 F.3d 1347, 61 USPQ2d 1193 (Fed. Cir. 2001). In that case, the Federal Circuit held that the lower court correctly concluded that a patent at issue was not invalid for indefiniteness even though the term "substantially" did not appear in the specification as filed and was only later added to the claims.

(2) At page 5, lines 7-10, the Examiner's Answer argues that:

Such interpretation is not supported by the original disclosure. If applicant had wanted to introduce a fudge factor because things aren't perfect, it should have been done when the application was originally filed.

(*See also* page 8, lines 1-5) Again, applicant respectfully disagrees and submits that the original disclosure does, in fact, support the phrase “substantially the same composition and thickness.” Indeed, as pointed out in the Appeal Brief, the Examiner himself recognizes that “[s]light variations in thickness and composition are inherent for any deposited film and one skilled in the art would recognize such variations upon reading the specification.” (Final Office action, March 22, 2007, p. 6, par. 6) (Emphasis added) The Examiner’s Answer (at the bottom of page 7) acknowledges the same point. Thus, there was nothing “imperfect” about the application as originally filed.

The claims as originally filed did not recite that the layers have the “same” or “substantially the same” composition and thickness. That language was introduced into the claims at a later date after Office actions identified a reference that necessitated clarification of the claimed subject matter (*see* Amendments dated May 23, 2005 and November 7, 2005). Thus, contrary to the implication of the Examiner’s Answer, there was no reason for the applicant to have mentioned the term “substantially” expressly in the specification as filed.

(3) At page 7, lines 4-6, the Examiner’s Answer states that “it is not clear how close to having the same thickness the corresponding layers must have in order to be considered to have ‘substantially the same thickness.’” (*See also* page 10, lines 3-5) That is incorrect.

The Examiner acknowledges that a person of ordinary skill would recognize, upon reading the specification, that “[s]light variations in the thickness and composition are inherent for any deposited film.” (Examiner’s Answer, bottom of page 7) As explained in Applicant’s §1.132 Declaration, the term “substantially the same thickness” corresponds to “normal” variations of up to two to three percent in thickness of a compound semiconductor layer over the surface of the wafer. (*See* Applicant’s §1.132 Declaration, p. 2, par. 5) A person of ordinary skill would have understood and recognized such variations as typical.

(4) As already noted, the Examiner acknowledges that a person of ordinary skill would understand from the specification as filed that slight variations in thickness and composition are inherent for any deposited film (bottom of page 7) and states that a “broad” interpretation of the claim language “the same” would include minor imperfections/impurities (page 9, lines 14-16). Nevertheless, the Examiner’s Answer objects to the addition of the word “substantially” in the claims as “superfluous” and argues that it would somehow improperly broaden the scope of the claims (page 9, lines 6-8; *see also* page 7, lines 19-20).

Applicant is not attempting to expand the scope of the claims improperly. Although claims are to be given their broadest reasonable interpretation consistent with the specification during examination (MPEP § 2111), applicant recognizes that such an interpretation might not be applied in other contexts. In particular, applicant wishes to avoid a literal, narrow interpretation of the phrase “the same” that might be applied in other situations. Similarly, applicant wishes to avoid any potential estoppel that might be applied to such a literal, narrow interpretation. Accordingly, applicant is simply attempting to make express what already is recognized to be inherent in the specification and the claims.

### Conclusion

For these reasons, and the reasons stated in the Appeal Brief, Applicant respectfully submits that the final rejections should be reversed and that the application should be allowed.

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Respectfully submitted,

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